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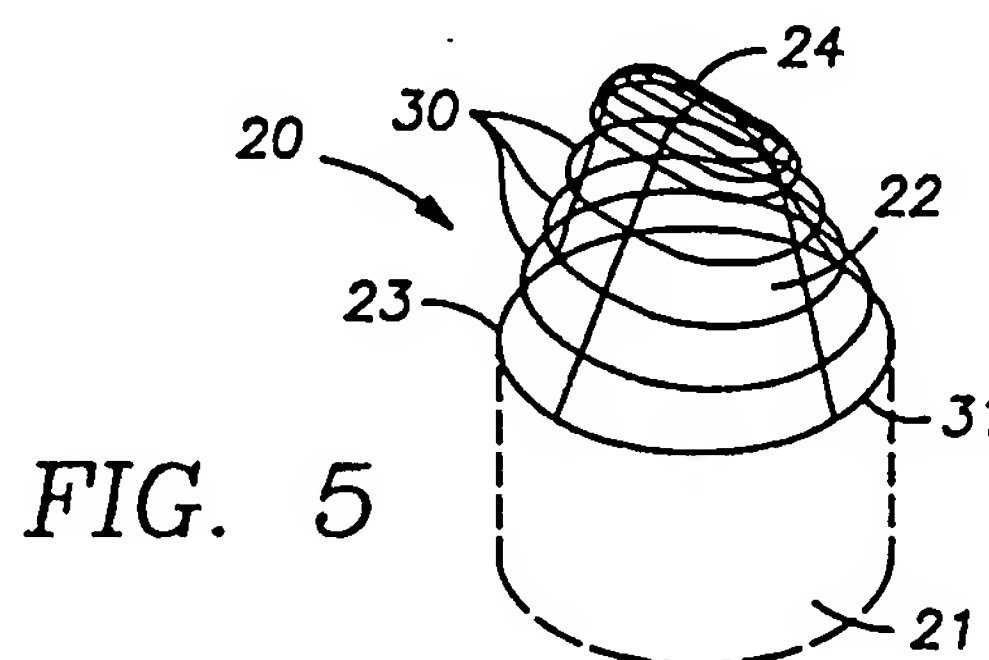
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(54) **Tungsten carbide inserts for rock bits.**

(57) A tungsten carbide chisel insert for rolling cone rock bits has a cylindrical base section and a cutting tip section, the top of the tip section having an elongated or chisel crest. The remainder of the cutting tip section below the crest is formed having cross-sections having no non-tangential intersections along their outer periphery. Such an insert used on the gage of a rock bit has a larger nose radius at the outer end of the insert crest than at the inner end, thereby providing more mass on the portion of the insert that contacts the borehole sidewall. Another chisel insert has a crest with a "dog bone" shape rounded with the crest ends flaring out to a larger dimension than the middle thereof. The crest is also convex upwardly along its median line, thereby making a shorter moment arm at the ends of the crest.

**FIG. 5****EP 0 527 506 A3**



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# EUROPEAN SEARCH REPORT

Application Number

EP 92 11 3930

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X,D A	US-A-3 442 342 (MCELYA ET AL.)  * column 4, line 71 - column 5, line 36 * * column 7, line 54 - column 8, line 3; figures 11-14 *  ---	1,2,7,8 3,9,10	E21B10/52
X A	US-A-4 058 177 (LANGFORD, JR. ET AL.)  * column 5, line 26 - line 45; figures 4,5 *  ---	1,4,5 9,10	
X,D	US-A-4 086 973 (KELLER ET AL.) * column 3, line 9 - line 53; figure 2 *  ---	1,6	
A	US-A-4 334 586 (SCHUMACHER) * abstract figures *  ---	1,10	
A,D	US-A-4 254 840 (SHAY, JR.) * column 2 line 4 - line 50; figures *  ---	1,10	
A	US-A-4 940 099 (DEANE ET AL.) * column 4, line 57 - column 5, line 14; figure 3 *  -----	9,10	TECHNICAL FIELDS SEARCHED (Int. Cl.5)  E21B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 23 APRIL 1993	Examiner LINGUA D.G.
<b>CATEGORY OF CITED DOCUMENTS</b>  X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document  T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons  * : member of the same patent family, corresponding document			

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